

Quite conspicuous, not elevated maculæ are distributed over the surface.

*Locality.* La Grange, Missouri. (Keokuk Limestone.)

**FISTULIPORA COMPRESSA** nov. spec.

Occurs associated with the former.

It grows in compressed ramose stems about one centimeter wide in the larger diameter, which are fixed to the ground or to foreign bodies by an irregular basal expansion. Surface raised in obtuse, unequal monticules, with a cellulose macula in the centre of each. Tubes one-sixth of a millimeter wide, of irregular form, distant about a tube diameter or less, and, if the surface is not worn, surrounded by an elevated margin. Structure in conformity with all the other *Fistuliporas*.

**FISTULIPORA PECULIARIS** nov. spec.

Is a very interesting representative of stellate or floriform tube orifices in *Fistulipora*, with whose occurrence in the genera *Chaetetes* and *Collopora* we have already become acquainted. It grows in thin leaf-like expansives, with orifices on both sides, or in simple leaves with an epitheca below. Orifices circular, surrounded by an equally-projecting margin, distant more than their own diameter, and exhibiting from six to ten tooth-like projections from their inner circumference. By grinding away the superficial portions, the tubules appear still provided with these radial dents, an evidence that they are not spinulose projections confined to the tube margins, but the ends of vertical ridges, running through the whole length of the tubules.

The surface is dotted with scarcely-elevated cellulose maculæ, which, like the narrower intertubular spaces, are finely granulose. Intertubular tissue vesiculose. Tubules rarely septate.

*Locality.* La Grange, Mo. (Keokuk Limestone.)

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**Fourth Contribution to the HERPETOLOGY of Tropical America.**

BY PROF. E. D. COPE.

I. *The collection made by direction of the Governor of Yucatan, Jose Salazar Starregui, by Arthur Schott, Naturalist of the Commission, and sent to the Smithsonian Institution.*

*Cinosternum shavianum*. *C. mexicanum* Le Conte, Proc. Acad. Nat. Sci. Philada., 1854, p. 180.

*Chelopus areolatus*? Cope, Proc. l. c. 1865, 186. *Emys areolatus* Duméril, Arch. d. Mus., vi. 223.

A large female specimen from Belize, from Dr. Parsons, confirms the characters of that from the expedition, and appears to be distinct from the *C. punctularius*.

*Crocodylus moreletii* A. Duméril, Arch. d. Mus., vi. 255.

*Anolis nebulosus* Wiegmann.

One sp. No. 714. Very near the true *A. sallaei* Gthr.

*Anolis laevis* Wiegmann.

This species is allied to *Schiedii* Wiegmann. (*sericeus* Hallow.) and *tropidogaster* Hallow. Several specimens Nos. 503, 505, 452.

*Basiliscus vittatus*. *Corythaeolus* Kaup.

Abundant. A second specimen of the allied *B. nuchalis* Cope, Proc. A. N. S. Philada., 1862, 181, has been sent to the Museum Smithsonian by Robt. Kennicott, from Panama. The *B. galeritus* A. Dum. is the species since described by Gray as *B. (Ptenosaura) seemanni*.

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*Laemanctus alticoronatus* Cope, Proc. A. N. S. Philada., 1865, 192.

Two specimens.

*Ctenosaura pectinata* Wiegmann, Herpetologia Mexicana. *Cyclura*, Dum. and Bibr.

Numerous specimens of this large Iguana; one taken with its mouth full of the flowers of a papilionaceous tree called Sabi. The Iguanae are known to be herbivorous, and Günther has stated that the Basilisci are likewise. I can add the *Cyclura baenlopha*, and many *Anoles*, not only the large, but the small species. The latter take also ants, as described by Gosse and Wood. The separated plates of the muzzle, with the small scales between them, place the *Metopocerus cornutus* Wagl. of the West Indies between this genus and the true *Cycluras*. The latter species was taken by Weinland in Hayti (Mus. Compar. Zoolog.) and by Fr. Klett in Navassa, southwest from Hayti. (Mus. Academy.)

*Ctenosaura acanthura* Wiegmann. Herp. Mexicana.

Apparently not so abundant as the last.

*Cachryx defensor*, sp. et. gen. nov.

Digits shortened. Body compressed. Nostril on canthus rostralis, lateral. Femoral pores, no preanals. Tail short, flat, covered with verticils of strong, erect, conic spinous scales. Head covered with small uniform scales; no interparietal. A strong gular dermal fold. No dorsal crest.

This genus is allied to *Urocentrum* and *Hoplurus*, but differs in the possession of femoral pores. It agrees in this with the depressed genus *Hoplocercus* Fitzinger, but in it the caudal scales, though partially spiny, are not whorled. *Enphryne* Bd. resembles it, but in it the scales of the whorls are not prolonged into spines, and the animal is depressed.

Head at posterior margin of orbits equal length from end of muzzle to middle of frontal region. Scales on muzzle larger than others. Loreal region concave; nostril in hinder part of a single scale. Ear large as eye, without marginal serrations. Scales of body small, slightly imbricate, homogeneous, smooth, in transverse series, and oblique longitudinal; larger on the rump, smaller on the sides: a slightly larger vertebral series. Abdominals smooth, equal dorsals; gulars a little smaller, equal on plica. A prebrachial and postauricular fold. Scales of fore limb moderate, some of those of femur and tibia much larger, spiniferous. Caudal whorls fifteen, the scales below narrowed, keeled, the carina prolonged into a flat spine. Spiniferous superior whorls seven, spines nearly erect, those of the median row smaller. With hind limb extended, the longest digit does not reach the axilla. Femoral pores six to nine. Bright olivaceous; shoulder and two bands on humerus, and the anterior part of dorsum, with interscapular region, black, the latter with two cross series of green spots, more or less distinct on the whole body in younger specimens. In older specimens, median dorsal region bright rufous.

Total length, 8 in. 6 lines. Muzzle to gular fold, 1 in. 7·5 l.; to vent, 5 in. Fore limb, 2 in. 1·5 l. Exped. Coll., No. 585.

This remarkable genus is decidedly ignaniform, but the digits are too short for an arboreal habit. Its tail is like that of the most spinous *Ctenosaura*, halved, and excessively abbreviated.

*Seeloporus serrifer*, sp. nov.

A stout species, near the *S. spinosus*, but differing in its fewer and larger scales, with more serrate margins, and in its coloration. It belongs therefore to the section with large lateral scales and only one row of large supraorbitals. In this species the latter are bounded by a complete series of inner and outer marginals. Scales from nape to rump, in twenty-three cross series, each with a long mucro, and two and three lesser ones on each side of it. Interparietal broader than long; frontal narrow, only transversely divided,

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posterior portion very small. Internasal longer than broad, elevated, sometimes sharply keeled. Lores deeply grooved. Claws of extended hind limb nearly to ear; femoral pores 9—10. Auricular marginal scales thin, not so large as those just preceding. Median abdominal scales once, gulars twice or thrice emarginate. Tail rather short. Length from end of muzzle to vent, 4 in. 1 l.

Color above greyish or brighter green, with a complete pea-green bordered black collar, which is narrower on the gular region. Throat and sides of ♂ blue, the latter broadly black-bordered behind and medially. A yellow bar across prefrontals, one between orbits and one across occiput, all separated by brown or blackish, the posterior green-bordered behind. Younger specimens have the back brown cross banded. Nos. 734, 719.

*Sceloporus chrysostictus*, sp. nov.

Near the *S. scalaris*, but without auricular marginal scales larger than the temporal, with smaller dorsal scales and different coloration. Lateral and ventral scales nearly equal; dorsals in forty-five rows from occiput to rump, obtusely mucronate, not notched. No larger plates behind parietals. Cephalic plates rugose; three pair supranasals; internasal small, flat; frontal nearly equally transversely divided, anterior half longitudinally divided. Interparietal narrowed anteriorly, long as broad; parietals oblique, longer than broad. Supraorbitals surrounded by marginals, the external separated from them by a row of rhombic scales. Unguis of extended hind limb to near nostril. From end of muzzle to vent, 2 in. 2 lines.

Brown, with two golden longitudinal lines from above ear to above groin, separated by nine rows of scales. A series of short, indistinct reddish brown cross-bars on each side the dorsum within these lines. Sides darker, with golden spangles; axilla and scapular region black. Head dark brown; below pale brown, chin darker.

Nos. 507 and 201.

*Sphaerodactylus glaucus* Cope, Proc. Acad. Nat. Sci, 1865, 192.

Several specimens. Dr. Berendt has also sent this species from Tabasco, with *Rhinophrynus dorsalis*.

*Thecadactylus rapicaudus* Gray. *Platydactylus Theconyx*, Dum. & Bibr.

One specimen, with several oblique, lateral, dorsal black spots.

*Coleonyx elegans* Gray, Duméril, Arch. d. Mus. viii. 438, Tab.

No. 483. Prof. Sumichrast has sent this species from Orizaba, (6334,) and Morelet originally procured it in Peten. Another species of the same genus is *Stenodactylus variegatus* Wiegman. Baird, U. S. Mex. Boundary Survey. *Brachydactylus* Peters, Monatsber. Preuss. Acad. 1863, 41, is identical.

*Cnemidophorus sackii* Wiegman.

This species is a true *Cnemidophorus*, and not an *Ameiva*, as formerly supposed.

*Typhlops microstomus*, sp. nov.

This is a slender species, stouter posteriorly than anteriorly, with small flattened rounded head, and muzzle obtuse and very prominent in profile. Labials four; first minute; second subquadrate, below preocular; third and fourth elongate vertically, and embracing between them a subocular; fourth highest, in contact with oral fissure by its anterior angle only. Ocular rather smaller than subocular; eye a small black speck on the oculo-præocular suture; præocular very large, broader than both nasals, outline almost angulate in front; two equal supraoculars larger than ocular. Nasal much narrowed above, nostril at nearly half its elevation, connected with labial suture by a long suture which is convex posteriorly, leaving postnasal narrower than prenasal; and with rostral suture by a short transverse fissure. Median cephalic series not smaller than lateral. Body scales in eighteen longitudinal rows. 1866.]

Vent little visible, nearly terminal. Tail very short, straight, its acumination nearly continuous with inferior plane. Length 10 in. 7 lin.; of tail, 0.9 lin.; diameter of posterior abdomen, 1 line. Color yellowish olive, becoming brighter yellow posteriorly. Coll. Commission, No. 716.

This species is only allied to the *T. disparilis* Jan, Iconographie, Tab. vi. f. 6, but is more slender anteriorly, has broader preocular, more elevated nostril, much smaller ocular, higher labials, etc. etc.

*Boa eques* Dum. & Bibron. Cope, Proc. Acad. Nat. Sci. Phila., 1860, 243. Several specimens.

*Tantilla vermiformis* Cope, Proc. Acad. Nat. Sci. Phila., 1861, 74. *Lioninia vermiformis* Hallow., l. c., 1860, 484.

One specimen.

*Tantilla moesta*. *Homalocranium moestum* Günther, Ann. Mag. N. H. 1863, p.

Rather slender; tail five and one fourth times in total length; muzzle rounded, scarcely projecting; orbitals 1—2, the anterior higher than long, barely in contact with postnasal. Superior labials seven, last highest, eye over third and fourth. Temporals 1—2. Pregeinals longer, in contact with mental; inferior labials six, fourth largest. Vertical plate longer than broad, posterior margins longer than lateral; superciliaries short, broad. Scales of body in fifteen rows. Total length 13½ inches.

Glossy black, chin and throat, and a collar involving postorbitals and borders and ends of occipitals and three rows of nuchal scales, yellow.

This genus now embraces the following species.

*T. planiceps* m., Proc. Acad. Nat. Sci. Philad., 1861, 74. *Coluber* Blainville, Nouv. Ann. Mus. Paris, 1834, 62. Baird & Girard, Serpents, 154.

*T. gracilis*, Baird & Girard, l. c. 132.

*T. hallowellii* Cope, l. c. 1861, 74.

*T. vermiformis* m. e. Hallowell, supra.

*T. reticulata* Cope, l. c. 1860, 77.

*T. miniata*, Cope, l. c. 1863, 100.

*T. coronata* Baird & Girard, l. c. 131.

*T. melanocephala* m. e. Schlegel, Dum. & Bibr., 859. Var., with longitudinal bands. Guadalaxara, Mexico, *Major*; Trinidad, W. I., *Gill*.

*T. nigriceps* Kennicott, Proc. A. N. S. Philad., 1860, 328.

*T. moesta* m., supra.

*T. laticeps* Günther, Proc. Zoolog. Soc. London, 1860, 240.

*T. semicineta*, Dum. & Bibr. 862.

*Ficimia publica*, sp. nov.

This species is intermediate between the *F. olivacea* and *F. variegata*,\* and the *Gyalopium canum*† m., having the broad rostral of the former in contact with the frontal, and the two internasals of the latter.

Nostril little longer than broad, concave, its apex more than a right angle, recurved, the plate concave, contracted at its junction with the frontal. A suture from nostril to interlabial suture; second labial largely in contact with prefrontal; eye over third and fourth, fifth triangular, sixth largest, seventh and last smallest; seven inferior labials, postgenaeals rudimental. Orbitals 1—2; temporals 1—2; occipitals rounded behind, broad as long; vertical broader than long; superciliaries longer than broad. Scales broad, in seventeen rows, the second nearly equal first. Gastrostege 138; anal divided; urostega 37 pairs.

Light yellowish-brown above, with twenty-nine or thirty subquadrate or narrow transverse brown spots; a larger nuchal spot; sides brown punctate; head darker shaded above, a brown spot below eye. Below immaculate whitish. Total length 8 in. 9 l. Nos. 625, 726, Commission Collection.

\* *Amblymetopon* Günther, Catal.

† Vid. *Sillim. Journ.*, 1863.

*Stenorhina ventralis* Dum. & Bibr. Cope, Proc. A. N. S. Philad., 1860, 242.

*Ninia collaris*, Jan. Elenco, 35. Cope, Proc. A. N. S. Philad., 1863, 100.

*Masticophis bilineatus* m. *Herpetodryas bilineatus* Schlegel, Jan. Elenco, Syst. 81.

Two specimens. *Masticophis* is the first name published with description for this genus, which I characterized (Proc. Acad. 1861, 560) under the name *Drymobius* Fitz. It embraces all the *Herpetodryades* of authors, (vide Jan's Elenco,) except the *H. carinatus*, *H. sebastus* m., and *H. flavescens* m. (*Phyllosira* m.) No. 777.

*Thrasops mexicanus* Cope, Proc. A. N. S. Philad., 1861, 557. *Leptophis* D. & B. *Ahaetulla* Gthr.

Two specimens. No. 771.

*Leptodira annulata* var.

Much like the South American variety in characters, but slender, with very narrow neck and broad head, like *Himantodes*. The head is broader, and the neck more constricted than in *annulata*; scales narrower, in twenty-one rows; prefrontals broader than long, loreal square; one preocular little apparent on upper surface of head, two postoculars; eight upper labials; eye over fourth and fifth; third sometimes in contact. *Gastrostega* 184, anal divided; *urostega* 81.

Grey, with twenty-two jet black half rings, extending to *gastrosteges*, the anterior broader, posterior pointed in front. Below immaculate. A black band from eye crosses angle of mouth and unites with first nuchal half ring. Total length 18 in. 2 l.; of tail, 4 in. 4 l., which is as broad as from end of muzzle to its border.

*Tropidodipsas brevifacies*, sp. nov.

This species approximates nearly the form of *Leptognathus* in its pregenials broad as long, and postgenials broader than long, and in the lack of complete preocular. It differs from the two known species of its genus in having smooth scales. An upper preocular, on one side exceedingly minute, neither attaining the frontals; a loreal extensively margining orbit, on one side divided by a horizontal suture. Postoculars three, inferior in contact with fifth and sixth labials, superior with occipital only. Superior labials nine, three posterior longer than high; inferior eleven, fifth and sixth minute and bordered by two hexagonal shields within; (one side mutilated.) Internasals and prefrontals broader than long, frontal broad as long, lateral longer than posterior suture; temporals 2—3—4. *Gastrostega* 171, five single gulars, one entire anal, *urostega* 86 pairs. Tail  $3\frac{2}{3}$  times in total length.

Glossy black, with ten on the body and seven on the tail yellow annuli, which occupy four scales and five *gastrostega*. A broad yellow collar reaching to the occipitals and involving two posterior labials, and four gular shields.

The teeth in this species are short and weak, and the maxillary bones slender and not alate. Coll. No. 753. One specimen.

*Elaps ornatissimus* Jan, Elenco.

*Smilisca bandinii* m. *Hyla vanleitii* Bd. *Hyla baudinii* Dum., Bibr. viii. Apparently abundant.

*Triprion petasatus* Cope. *Pharyngodon petasatus* m. Proc. Acad. 1865, 193. Generic name preoccupied in Helminthes.

*Bufo valliiceps* Wiegmann, Peters. *B. nebulifer* Girard.

*Bufo marinus*. *B. aqua* Daudin.

*Rana halecina* Bosc. One sp., No. 712.

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II. *A collection of Reptiles, from Belize from Dr. Parsons, contained*

*Cinosternum leucostomum*, *Ptychemys ornata*, *Dermatemys mavei* and *Chelopus areolatus*.

Of Ophidians, *Leptodira annulata*.

*Coniophanes bipunctatus* Cope, Proc. 1860, 248. *Coronella bipunctata* Günther, Catal., 36.

The other species of this genus known are—

*C. fissidens* Hallowell, Günther, Catalogue B. M. (*Coronella*.)

*C. proterops* Cope, Pr. A. N. Sci. 1860, 249.

*C. punctularis* m. l. c. 1860, 248.

*C. dromiciformis* m. *Tachymenis dromiciformis* Peters.\* Monatsber. Berlin, 1863, p. 273.

*C. lateritius* m. l. c. 1861, 524.

*C. imperialis* m. l. c. 1861, p. 74. *Taniophis imperialis* Bd., Gird., U. S. Mex. Bound. Surv. Rept., 23, Tab. 19, fig. 1.

*Coluber triaspis* sp. nov.

Form compressed, as in *C. laetus*; scales all small, smooth, faintly carinate on the caudal region, in thirty-three longitudinal rows; head elongate, with three or two loreals, one preocular and two or three postoculars. Maxillary teeth weak, slightly longer in front. Vertex and front plane, muzzle narrow, rounded, rostral not prominent. Nasals elongate, internasals a little broader than long, prefrontals long as broad. Preocular not quite reaching frontal; latter longer than broad, front and sides straight, forming rectangles, posterior angle very open. Temporals three, long, oblique *upwards and backwards* from the sixth upper labial, separated from occipital by two small scales. Nine superior labials, *all* longer than high, fourth and fifth under orbit. Pre-generials long, postgenerials rudimental. Tail a little less than one-fifth total length. Gastrostega 266; anal divided; urostega 118.

Yellowish gray, with fifty jet black, white margined dorsal spots, which occupy thirteen scales transversely and three and four longitudinally. They are narrower and more approximated posteriorly, and are accompanied by a series of similar quadrate lateral spots alternating with them: light brown irregular spots on the ends of the gastrostega. Below immaculate. A narrow and broad black crossband on the muzzle, latter from orbits; one on each side from the superciliary shield to the nape, and a median band from middle of frontal to beyond occipitals, enclosing a pale occipital spot.

This species is said to be common in the Belize, "where it is called Clap and Sawyer." It grows to eight or nine feet in length, and is very active in its movements.

This is an anomalous species of the genus; its elongate form, loreals, and general physiognomy approximate it to the Dipsadine genus *Trimorphodon*, of the same region.

*Masticophis margaritiferus*. *Dryobius* m.

*Elaps ornatissimus* Jan, Elenco.

*Elaps diastema* Dum., Bibr.

*Bufo sternosignatus* Günther, Catal.

The same correspondent sends from the neighboring region of Honduras—

*Ninia collaris* m. *Streptophorus sebæ collaris* Jan, and

*Rhagnops† visoninus* gen. et sp. nov.

\* Professor Peters finds *Coniophanes* Hallowell probably identical with *Tachymenis* Wiegmann. The distinctions are well marked,—in the former one preocular and no scale pores, in the latter two preoculars and one scale pore. The former genus has been since called *Glaphrophis* by Jan, and the *Tachymenis hypocœnia* m. l. c. 1860 249, is *Mesotes obtrusus* Jan, *Coronellinae*, 1863.

† Πηγυρα from the severance of the nasals.

The genus is near to *Carplophis* in most respects, including the divided anal shield, but differs in its two distinct nasals, of which the anterior is pierced for the nostril. There are two postoculars, and fifteen series of scales. Teeth equal. Form rather slender. The postgenials are quite small, and converted into scales similar to those at the extremities of the gular gastrosteges: they nevertheless occupy the true position of genials. The pregenials are very large, and so wide as to reduce the two small inferior labials bordering them anteriorly, to a longitudinal linear form; they crowd the first pair into a transverse linear series: the symphyseal is very small and transverse. Seven inferior labials, fourth and fifth much largest. Superior labials seven, of which the last and fifth are large, the latter not quite reaching superior postocular, the sixth lower: temporals 1—1. Occipitals elongate, frontal broader than long, prefrontals several times as long as internasals, largely margining orbits. Rostral not projecting; nasals two, nostril in anterior, which nearly reaches labial border; loreal long, bounded by second, and chiefly third superior labial. Pupil round. Gastrosteges 135, anal divided, urosteges 36. Length of head and body, 10 in.; of tail, 2 in. 2 l.

Color above glossy dark brown, the centres of the scales paler, of the outer row especially, reducing the dark to mere margins. A darker brown line from nape to tail on the fifth series on each side. A darker shade on hinder part of occipitals and end of muzzle. Straw-colored below, extending on superior labials round margin of rostral: tail brown below, except middles of proximal scutella.

In this species the pupil is round.

*Siphonops syntremus* sp. nov.

This species differs from the four hitherto known, in the close approximation of the narial and tentacular openings: the latter lie a little behind the former, and are slightly larger. The minute eyes are just visible; the internal nares are some distance behind the palatine arch. Muzzle projecting, obtuse in profile; from above narrowed, rounded. Teeth large, five on each ramus mandibuli. A gular, and strong postgular fold; 130 annular pliaë, which are complete, except slight ventral interruption anteriorly; the posterior third of the length with intermediate annuli, which are first lateral only, then complete above, entirely complete on the terminal inch: the whole number will then be about 170 annuli.

Form of body rather slender; tail depressed at end, short, acuminate.

Color dark plumbeous, annuli yellow lined; head yellowish brown.

This species resembles the *Cœilia ochrocephala*, but is primarily distinguished by the position of the foramen, and of the inner nares, also by the color and character of annuli.

The species of the genus now are, *S. indistinctus*, R. & L., *S. annulatus* Mikán, *S. brasiliensis* Lütke, *S. mexicanus* Dum., Bibr., and *S. syntremus* n.

### III. Notes on Neotropical Batrachians.

*Ranula chrysoprasina* sp. nov.

In examining a collection sent to the Smithsonian Institution from Arriba, Costa Rica, from Chas. N. Riotte, I was much surprised to notice what was apparently a *Hylorana* near *H. erythræa*. Doubting the correctness of the locality, I laid it away. Having since seen other and allied species from Tropical America, I recognize the existence of a genus representing *Hylorana*, but differing in the important particular of the incompleteness of the ethmoid arch, its superior plate being represented by cartilage. In the present species the terminal phalanges are slender, and furnished with a transverse limb, though the dilatations are small; the latter are distinct in the *Rana coreuleopunctata* Steindachner; in an undescribed species from Vera Paz the transverse limb is very small, but present.

1866.]

The generic characters will then be—

Ethmoid arch superiorly cartilaginous; prefrontals narrow, longitudinal widely, separated. Distal phalanges slender, with transverse limb; no metatarsal shovel; tongue bifurcate.

*Ranula affinis*. *Rana affinis* and *Ranula gelmerii* (young) Peters, Monatsber, Berlin. Venezuela.

Though I employ the name given to this species for the genus, I am not positive as to the condition of the distal phalanges.

*Ranula* sp. nov. O. Salvin; Vera Paz, Venezuela.

*Ranula coeruleopunctata*. *Rana* do. Steind., Verhandl. Bot. Zool. Gesselsch. Wien, 1864, 264. ? South America.

*Ranula chrysoprasina*.

The species is allied to the last, but has a relatively shorter muzzle and limbs. Nostril nearer end of muzzle than orbit (equidistant in *coeruleopunctata*); muzzle 1 1-5th orbit (1 2-5th Steind.) Under jaw anteriorly abruptly truncate. Canthus rostralis straight, strong, muzzle acuminate from its extremity, projecting; loreal region vertical. Tympanum elliptic two-thirds orbit. Vomerine teeth weak, in convergent fasciculi behind opposite nares. Skin shagreened above, a glandular fold on each side. The longest finger cannot be extended to vent; heel to middle loreal region. Toes fully not widely palmate, three distal phalanges of fourth free; one minute metatarsal tubercle.

Color brilliant leek green, the groin and belly approaching golden; a golden band from lip to shoulder, and faint one on each side back. Limbs above, and tarsus and forearm below, black, the femur with a few golden spots on black ground behind. Head dark above, from eye to shoulder black; below pale yellowish green immaculate, except some dark shades on sternal regions.

Length of head and body 1 in. 9 l.; of fore limb 1 in.; of hind limb 2 in. 7-5 l. Costa Rica.

Steindachner represents much less palmation than exists in our specimen.

It is interesting to observe how that this Raniform type, while preserving its definitive features in this outlying region of its distribution, and within the limits of the lower fauna of South America and Australia, offers the lowest condition of cranial structure consistent with this type, *i. e.*, the imperfection of its ethmoid and prefrontal bones.

*Colostethus latinus* gen. nov.

By this name I propose to characterize a genus of Ranidæ, the type of which is the *Phyllobates latinus* m., Proc. Acad. Nat. Sci. 1863, 48.

The sternum is Raniform without manubrium, and with membranous xiphisternum, quite as in the Bufoniform genus *Dendrobates*, from which the presence of very well developed teeth only separates it. It will form a Group I. of Fam., Ranidæ before that occupying that place in System Batrachia Saliencia, Nat. History Review, 1865, and tending towards Bufoniformia. The characters are—

Group I. No manubrium, xiphisternum membranous. External metatarsi bound; distal phalanges with terminal transverse limb.

Character of genus. Digits free with dilatations; no vomerine teeth; prefrontals widely separated by the largely produced bony superior ethmoid plate.

*Bufo coccifer* sp. nov.

Parotoids round semiglobular. Muzzle narrowly rounded, nearly as long as orbit. Strong bony, canthal, pre-, sub-, and postorbital, supratympanic and supraorbital ridges; the last regularly curved and sending parietal branch towards the median line; the first rapidly converging, leaving only a gutter between. Tympanum one-fifth orbit. Everywhere minutely tubercular,

[May,

those of the sides and forearm conic: soles rough, web short, metatarsal tubercles small, obtusely prominent; tarsal fold scarcely visible. Heel to axilla. Two obtuse metacarpal warts.

Gray brown; a yellow vertebral line, with numerous chestnut brown light bordered spots on each side. Sides with two longitudinal brown bands, one from parotoid and one from groin. Limbs irregularly light varied above. Under surfaces immaculate.

Length of head and body 2 in. 6 l.; breadth at angle of jaws below 1 in. Length of fore limb 1 in. 5 l.; length of foot 1 in. 3 l.

Arriba, Costa Rica, C. N. Riotte. Smithsonian, No. 6490.

This handsome species resembles the *B. ocellatus* Gthr. in coloration.

*Phyllobates ridens* sp. nov.

The close areolation of the abdomen, throat, and lower face of femora, the recurved angle of the mouth, the minute (one-eighth orbit) tympanum above the ordinary position, and truncate tongue, are marked features in this species. The tongue is broad and extensively free, and each angle behind is thickened. Choanæ small, Eustachian ostia minute. Skin smooth, without folds or tubercles, except a few wartlets over orbit. The eyes are large and prominent, diameter of orbit nearly equal from same to end of muzzle. Latter projecting beyond jaw, nares behind the tip, each on an angle of canthus approximated. Canthus strong, a little concave; loreal region oblique. Greatest width of head (behind) equal to length of same, and entering  $2\frac{2}{3}$  in total. Heel and palm to end muzzle. Fingers and toes long, free, dilatations well marked.

Color above grayish brick-red, with a gray cross bar between eyes, two across tibia and three across femur. Sides with some gray shades, lip with five bars of the same, two from the orbit. A black spot on tympanum, and gray line on canthus. Below, and inner faces of limbs pale brownish.

*Habitat*.—St. Juan River, Nicaragua, Robt. Kennicott; Mus. Smithsonian.

*Engystoma variolosum* sp. nov.

Two strong compressed metatarsal tubercles, a sublongitudinal cuneiform and subtransverse opposite it: toes slightly webbed. Width between tympanic regions nearly double the length from muzzle to nuchal fold. Muzzle prominent, as long as orbit, nostrils nearly terminal. Mandible with two symphyseal notches, and median knob. Tongue flat, elongate; slits of vocal vesicle large. Heel to front of scapula.

Dark brown above; under side limbs and belly darker, with numerous large yellowish spots. Sides anteriorly blackish brown, which has a serrate margin above. Femora, forearms and tarsi same behind, with coarse yellow vermiculations: some yellow spots behind the angle of the mouth. Length of head and body 1 in. 4.5 l.; of posterior limbs 1 in. 7 l.

This species resembles the East Indian species called *Diplopelma* by Günther, on account of the palmate feet: if this is the only ground of distinction, the genus must be united with *Engystoma*.

Arriba, Costa Rica; Chas. N. Riotte. Mus. Smithsonian, No. 6486.

*Engystoma ustum*.

This animal agrees with the preceding in its two metatarsal tubercles, but they are less acute, the exterior being only an acuminate wart. Toes entirely free. Muzzle more prominent than in the last or *E. carolinense*, little longer than orbit; head larger relatively than in the last mentioned species, with which it agrees in size. Width of cranium at tympanic region less than  $1\frac{1}{2}$  times from muzzle to nuchal fold.

Length of head and body 11 lin.; posterior limb 12 lines.

Deep brown above, yellowish brown below, with numerous approximated pale spots, which extend slightly on sides. Limbs unicolor.

*Habitat*.—Guadalajara, West Mexico. I. I. Major.

The *E. carolinense* never exhibits more than one metatarsal tubercle. 1866.]

A species of *Cœcilia* occurs in Panama, of which a specimen was sent to the Mus. Academy by Drs. Gallaer and John L. Leconte, viz. :

*Cœcilia ochrocephala*.

Proportions near those of *Siphonops mexicanus*; length fifty-one times the diameter at middle. Tail obtuse depressed. Head narrowed, muzzle de-curved, not truncate, projecting acutely (in profile) beyond mouth. Tentacular foramen a little below, nostril more above the angle of the muzzle; eyes not visible. Posterior nares close behind palatine arch. Annuli, commencing at head, 200, equidistant, complete above and below. On the terminal inch there are intermediate plicæ, on the dorsal surface only, except on the last three lines, where they are complete. Total length 12 in. 9 l.

Yellowish plumbeous. The plicæ dark; throat and head ochre yellow.

Fine examples of the *C. compressicauda* D. & B., and *Siphonops indistinctus* Lütke. are in the Mus. Essex Inst., Salem, Mass., the last from the Rio Grande, Brazil.

IV. On Reptiles from Orizaba, Vera Cruz.

There remain to be added to the Catalogue of Reptiles sent by Professor Sumichrast from Orizaba, published in Proc. Academy 1865, 195,—

*Spelerpes lineolus* m. Proc. Acad. 1865, 197.

*Spelerpes orculus* ib. maintains its character of stout body and head, and dark colors, but not the absence of angulation of the lip, as this is strongly marked: the dorsal region and tail above are dark red, offering a general resemblance to *Plethodon erythronotus*. (No. 14.)

*Bufo cristatus* Wiegmann, Isis, 1863, 660. Peters, Monatsb. Berlin, 1863, 82. Brought also from near Vera Cruz by Dr. Sartorius.

*Lithodytes (Crangastor) griseus* m. *Hyla grisea* Hallow.

*Cystignathus melanonotus* Hallow. var.

*Coleonyx elegans* supra.

*Barissia antauges* sp. nov.

A species differing from those already known in the entire smoothness of the scales of the body, while those of the tail are arranged in obtuse and strong ridges. Nuchal rows eight, those of body  $\frac{16}{12}$ . A depression along the vertebral line; six scales margin the vent. Labials  $\frac{10}{8}$ , three last superior nearly equal, separated by four rows of nearly equal temporals from parietals. Latter broad as long, well separated, with the fronto-parietals by the elongate interparietal. Five supraorbitals, embracing three superciliaries. Prefrontals longer than broad; three pairs supranasals. Tail short for the genus. Limbs also short. Head short and elevated. End muzzle to avilla 1 in. 3 l.; latter to vent 2 in. 1 l.; from latter to end tail 4 in. 1 l.

Above dark brown, with a subdivided iridescence as though greased, and with many small blackish brown spots, which are more distinct on the tail. Sides with about seventeen irregular vertical black bars from opposite nape to groin, each bordered with yellow specks behind. Front of ear and lips black, yellow varied; body and tail below, blackish, with very many yellowish-white specks.

No. 11, Sumichrast's Coll. Stated by Prof. S. to be very rare.

*Ficimia olivacea* Gray.

[May,